

# SEQUENCE LISTING

<110> Rapoport, Basil

<120> DISEASE ASSOCIATED HUMAN AUTOANTIBODIES SPECIFIC FOR HUMAN THYROID PEROXIDASE

<130> A1697DIV3

<140> 08/482,402

<141> 1996-06-07

<150> US 08/196,082

<151> 1994-03-03

<150> US 08/182,117

<151> 1994-01-27

<150> PCT/US92/07381

<151> 1992-08-28

<150> PCT/US92/006283

<151> 1992-07-30

<150> US 07/750,579

<151> 1991-08-28

<150> US 07/738,040

<151> 1991-07-30

<150> US 07/559,955

<151> 1990-07-31

<150> US 07/472,070

<151> 1990-01-30

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<151> 1989-07-31

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<170> PatentIn version 3.1

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1 5

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Thr Leu Val Met Ala Cys Thr Glu Ala Phe Phe Pro Phe Ile Ser Arg  
10 15 20 25

ggg aaa gaa ctc ctt tgg gga aag cct gag gag tct cgt gtc tct agc 207  
Gly Lys Glu Leu Leu Trp Gly Lys Pro Glu Glu Ser Arg Val Ser Ser  
30 35 40

gtc ttg gag gaa agc aag cgc ctg gtg gac acc gcc atg tac gcc acg 255  
Val Leu Glu Glu Ser Lys Arg Leu Val Asp Thr Ala Met Tyr Ala Thr  
45 50 55

atg cag aga aac ctc aag aaa aga gga atc ctt tct gga gct cag ctt 303  
Met Gln Arg Asn Leu Lys Lys Arg Gly Ile Leu Ser Gly Ala Gln Leu  
60 65 70

ctg tct ttt tcc aaa ctt cct gag cca aca agc gga gtg att gcc cga 351  
Leu Ser Phe Ser Lys Leu Pro Glu Pro Thr Ser Gly Val Ile Ala Arg  
75 80 85

gca gca gag ata atg gaa aca tca ata caa gcg atg aaa aga aaa gtc 399  
Ala Ala Glu Ile Met Glu Thr Ser Ile Gln Ala Met Lys Arg Lys Val  
90 95 100 105

aac ctg aaa act caa caa tca cag cat cca acg gat gct tta tca gaa 447  
Asn Leu Lys Thr Gln Gln Ser Gln His Pro Thr Asp Ala Leu Ser Glu  
110 115 120

gat ctg ctg agc atc att gca aac atg tct gga tgt ctc cct tac atg 495  
Asp Leu Leu Ser Ile Ile Ala Asn Met Ser Gly Cys Leu Pro Tyr Met  
125 130 135

ctg ccc cca aaa tgc cca aac act tgc ctg gcg aac aaa tac agg ccc 543  
Leu Pro Pro Lys Cys Pro Asn Thr Cys Leu Ala Asn Lys Tyr Arg Pro  
140 145 150

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agt cag ccc cga ggc tgg aac ccc ggc ttc ttg tac aac ggg ttc cca				687
Ser Gln Pro Arg Gly Trp Asn Pro Gly Phe Leu Tyr Asn Gly Phe Pro	190	195	200	
ctg ccc ccg gtc cgg gag gtg aca aga cat gtc att caa gtt tca aat				735
Leu Pro Pro Val Arg Glu Val Thr Arg His Val Ile Gln Val Ser Asn	205	210	215	
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Glu Val Val Thr Asp Asp Asp Arg Tyr Ser Asp Leu Leu Met Ala Trp	220	225	230	
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Gly Gln Tyr Ile Asp His Asp Ile Ala Phe Thr Pro Gln Ser Thr Ser	235	240	245	
aaa gct gcc ttc ggg gga ggg tct gac tgc cag atg act tgt gag aac				879
Lys Ala Ala Phe Gly Gly Gly Ser Asp Cys Gln Met Thr Cys Glu Asn	250	255	260	265
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Gln Asn Pro Cys Phe Pro Ile Gln Leu Pro Glu Glu Ala Arg Pro Ala	270	275	280	
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Ala Gly Thr Ala Cys Leu Pro Phe Tyr Arg Ser Ser Ala Ala Cys Gly	285	290	295	
acc ggg gac caa ggc gcg ctc ttt ggg aac ctg tcc acg gcc aac ccg				1023
Thr Gly Asp Gln Gly Ala Leu Phe Gly Asn Leu Ser Thr Ala Asn Pro	300	305	310	
agg cag cag atg aac ggg ttg acc tcg ttc ctg gac gcg tcc acc gag				1071
Arg Gln Gln Met Asn Gly Leu Thr Ser Phe Leu Asp Ala Ser Thr Val	315	320	325	
tat ggc agc tcc ccg gcc cta gag agg cag ctg cgg aac tgg acc agt				1119
Tyr Gly Ser Ser Pro Ala Leu Glu Arg Gln Leu Arg Asn Trp Thr Ser	330	335	340	345
gcc gaa ggg ctg ctc cgc gtc cac ggc cgc ctc cgg gac tcc ggc cgc				1167
Ala Glu Gly Leu Leu Arg Val His Gly Arg Leu Arg Asp Ser Gly Arg	350	355	360	
gcc tac ctg ccc ttc gtg ccg cca cgc gcg cct gcg gcc tgt gcg ccc				1215
Ala Tyr Leu Pro Phe Val Pro Pro Arg Ala Pro Ala Ala Cys Ala Pro	365	370	375	
gag ccc ggc aac ccc gga gag acc cgc ggg ccc tgc ttc ctg gcc gga				1263
Glu Pro Gly Asn Pro Gly Glu Thr Arg Gly Pro Cys Phe Leu Ala Gly	380	385	390	
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Asp Gly Arg Ala Ser Glu Val Pro Ser Leu Thr Ala Leu His Thr Leu	395	400	405	

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gcg cac tgg agc gcg gac gcc gtg tac cag gag gcg cgc aag gtc gtg Ala His Trp Ser Ala Asp Ala Val Tyr Gln Glu Ala Arg Lys Val Val 430 435 440	1407
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ctg gga ccc gag gcc ttc cag cag tac gtg ggt ccc tat gaa ggc tat Leu Gly Pro Glu Ala Phe Gln Gln Tyr Val Gly Pro Tyr Glu Gly Tyr 460 465 470	1503
gac tcc acc gcc aac ccc act gtg tcc aac gtg ttc tcc aca gcc gcc Asp Ser Thr Ala Asn Pro Thr Val Ser Asn Val Phe Ser Thr Ala Ala 475 480 485	1551
ttc cgc ttc ggc cat gcc acg atc cac ccg ctg gtg agg agg ctg gac Phe Arg Phe Gly His Ala Thr Ile His Pro Leu Val Arg Arg Leu Asp 490 495 500 505	1599
gcc agc ttc cag gag cac ccc gac ctg ccc ggg ctg tgg ctg cac cag Ala Ser Phe Gln Glu His Pro Asp Leu Pro Gly Leu Trp Leu His Gln 510 515 520	1647
gct ttc ttc agc cca tgg aca tta ctc cgt gga ggt ggt ttg gac cca Ala Phe Phe Ser Pro Trp Thr Leu Leu Arg Gly Gly Gly Leu Asp Pro 525 530 535	1695
cta ata cga ggc ctt ctt gca aga cca gcc aaa ctg cag gtg cag gat Leu Ile Arg Gly Leu Leu Ala Arg Pro Ala Lys Leu Gln Val Gln Asp 540 545 550	1743
cag ctg atg aac gag gag ctg acg gaa agg ctc ttt gtg ctg tcc aat Gln Leu Met Asn Glu Glu Thr Glu Arg Leu Phe Val Leu Ser Asn 555 560 565	1791
tcc agc acc ttg gat ctg gcg tcc atc aac ctg cag agg ggc cgg gac Ser Ser Thr Leu Asp Leu Ala Ser Ile Asn Leu Gln Arg Gly Arg Asp 570 575 580 585	1839
cac ggg ctg cca ggt tac aat gag tgg agg gag ttc tgc ggc ctg cct His Gly Leu Pro Gly Tyr Asn Glu Trp Arg Glu Phe Cys Gly Leu Pro 590 595 600	1887
cgc ctg gag acc ccc gct gac ctg agc aca gcc atc gcc agc agg agc Arg Leu Glu Thr Pro Ala Asp Leu Ser Thr Ala Ile Ala Ser Arg Ser 605 610 615	1935
gtg gcc gac aag atc ctg gac ttg tac aag cat cct gac aac atc gat Val Ala Asp Lys Ile Leu Asp Leu Tyr Lys His Pro Asp Asn Ile Asp 620 625 630	1983

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cag agg cgt gag ctg gag aag cac tcc ctg tct cgg gtc atc tgt gac Gln Arg Arg Glu Leu Glu Lys His Ser Leu Ser Arg Val Ile Cys Asp 685 690 695	2175
aac act ggc ctc acc agg gtg ccc atg gat gcc ttc caa gtc ggc aaa Asn Thr Gly Leu Thr Arg Val Pro Met Asp Ala Phe Gln Val Gly Lys 700 705 710	2223
ttc ccc gaa gac ttt gag tct tgt gac agc atc act ggc atg aac ctg Phe Pro Glu Asp Phe Glu Ser Cys Asp Ser Ile Thr Gly Met Asn Leu 715 720 725	2271
gag gcc tgg agg gaa acc ttt cct caa gac gac aag tgt ggc ttc cca Glu Ala Trp Arg Glu Thr Phe Pro Gln Asp Asp Lys Cys Gly Phe Pro 730 735 740 745	2319
gag agc gtg gag aat ggg gac ttt gtg cac tgt gag gag tct ggg agg Glu Ser Val Glu Asn Gly Asp Phe Val His Cys Glu Glu Ser Gly Arg 750 755 760	2367
cgc gtg ctg gtg tat tcc tgc cgg cac ggg tat gag ctc caa ggc cgg Arg Val Leu Val Tyr Ser Cys Arg His Gly Tyr Glu Leu Gln Gly Arg 765 770 775	2415
gag cag ctc act tgc acc cag gaa gga tgg gat ttc cag cct ccc ctc Glu Gln Leu Thr Cys Thr Gln Glu Gly Trp Asp Phe Gln Pro Pro Leu 780 785 790	2463
tgc aaa gat gtg aac gag tgt gca gac ggt gcc cac ccc ccc tgc cac Cys Lys Asp Val Asn Glu Cys Ala Asp Gly Ala His Pro Pro Cys His 795 800 805	2511
gcc tct gcg agg tgc aga aac acc aaa ggc ggc ttc cag tgt ctc tgc Ala Ser Ala Arg Cys Arg Asn Thr Lys Gly Gly Phe Gln Cys Leu Cys 810 815 820 825	2559
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ctg atc gga ggc ttc gca ggt ctc acc tcg acg gtg att tgc agg tgg	2703

Leu Ile Gly Gly Phe Ala Gly Leu Thr Ser Thr Val Ile Cys Arg Trp  
860 865 870

aca cgc act ggc act aaa tcc aca ctg ccc atc tcg gag aca ggc gga 2751  
Thr Arg Thr Gly Thr Lys Ser Thr Leu Pro Ile Ser Glu Thr Gly Gly  
875 880 885

gga act ccc gag ctg aga tgc gga aag cac cag gcc gta ggg acc tca 2799  
Gly Thr Pro Glu Leu Arg Cys Gly Lys His Gln Ala Val Gly Thr Ser  
890 895 900 905

ccg cag cgg gcc gca gct cag gac tcg gag cag gag agt gct ggg atg 2847  
Pro Gln Arg Ala Ala Ala Gln Asp Ser Glu Gln Glu Ser Ala Gly Met  
910 915 920

gaa ggc cgg gat act cac agg ctg ccg aga gcc ctc tgagggcaaa 2893  
Glu Gly Arg Asp Thr His Arg Leu Pro Arg Ala Leu  
925 930

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Leu Val Asp Thr Ala Met Tyr Ala Thr Met Gln Arg Asn Leu Lys Lys  
50 55 60

Arg Gly Ile Leu Ser Gly Ala Gln Leu Leu Ser Phe Ser Lys Leu Pro  
65 70 75 80

Glu Pro Thr Ser Gly Val Ile Ala Arg Ala Ala Glu Ile Met Glu Thr  
85 90 95

Ser Ile Gln Ala Met Lys Arg Lys Val Asn Leu Lys Thr Gln Gln Ser  
100 105 110

Gln His Pro Thr Asp Ala Leu Ser Glu Asp Leu Leu Ser Ile Ile Ala  
115 120 125

Asn Met Ser Gly Cys Leu Pro Tyr Met Leu Pro Pro Lys Cys Pro Asn  
130 135 140

Thr Cys Leu Ala Asn Lys Tyr Arg Pro Ile Thr Gly Ala Cys Asn Asn  
145 150 155 160

Arg Asp His Pro Arg Trp Gly Ala Ser Asn Thr Ala Leu Ala Arg Trp  
165 170 175

Leu Pro Pro Val Tyr Glu Asp Gly Phe Ser Gln Pro Arg Gly Trp Asn  
180 185 190

Pro Gly Phe Leu Tyr Asn Gly Phe Pro Leu Pro Pro Val Arg Glu Val  
195 200 205

Thr Arg His Val Ile Gln Val Ser Asn Glu Val Val Thr Asp Asp Asp  
210 215 220

Arg Tyr Ser Asp Leu Leu Met Ala Trp Gly Gln Tyr Ile Asp His Asp  
225 230 235 240

Ile Ala Phe Thr Pro Gln Ser Thr Ser Lys Ala Ala Phe Gly Gly Gly  
245 250 255

Ser Asp Cys Gln Met Thr Cys Glu Asn Gln Asn Pro Cys Phe Pro Ile  
260 265 270

Gln Leu Pro Glu Glu Ala Arg Pro Ala Ala Gly Thr Ala Cys Leu Pro  
275 280 285

Phe Tyr Arg Ser Ser Ala Ala Cys Gly Thr Gly Asp Gln Gly Ala Leu  
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Phe Gly Asn Leu Ser Thr Ala Asn Pro Arg Gln Gln Met Asn Gly Leu  
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325

330

335

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His Gly Arg Leu Arg Asp Ser Gly Arg Ala Tyr Leu Pro Phe Val Pro  
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Pro Arg Ala Pro Ala Ala Cys Ala Pro Glu Pro Gly Asn Pro Gly Glu  
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Thr Arg Gly Pro Cys Phe Leu Ala Gly Asp Gly Arg Ala Ser Glu Val  
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Pro Ser Leu Thr Ala Leu His Thr Leu Trp Leu Arg Glu His Asn Arg  
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Leu Ala Ala Ala Leu Lys Ala Leu Asn Ala His Trp Ser Ala Asp Ala  
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Val Tyr Gln Glu Ala Arg Lys Val Val Gly Ala Leu His Gln Ile Ile  
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Val Ser Asn Val Phe Ser Thr Ala Ala Phe Arg Phe Gly His Ala Thr  
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Ile His Pro Leu Val Arg Arg Leu Asp Ala Ser Phe Gln Glu His Pro  
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Asp Leu Pro Gly Leu Trp Leu His Gln Ala Phe Phe Ser Pro Trp Thr  
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Arg Pro Ala Lys Leu Gln Val Gln Asp Gln Leu Met Asn Glu Glu Leu  
 545 550 555 560



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Glu	Trp	Arg	Glu	Phe	Cys	Gly	Leu	Pro	Arg	Leu	Glu	Thr	Pro	Ala	Asp	595	600	605	
Leu	Ser	Thr	Ala	Ile	Ala	Ser	Arg	Ser	Val	Ala	Asp	Lys	Ile	Leu	Asp	610	615	620	
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Glu	Asn	Phe	Leu	Pro	Arg	Ala	Arg	Thr	Gly	Pro	Leu	Phe	Ala	Cys	Leu	645	650	655	
Ile	Gly	Lys	Gln	Met	Lys	Ala	Leu	Arg	Asp	Gly	Asp	Trp	Phe	Trp	Trp	660	665	670	
Glu	Asn	Ser	His	Val	Phe	Thr	Asp	Ala	Gln	Arg	Arg	Glu	Leu	Glu	Lys	675	680	685	
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Pro	Met	Asp	Ala	Phe	Gln	Val	Gly	Lys	Phe	Pro	Glu	Asp	Phe	Glu	Ser	705	710	715	720
Cys	Asp	Ser	Ile	Thr	Gly	Met	Asn	Leu	Glu	Ala	Trp	Arg	Glu	Thr	Phe	725	730	735	
Pro	Gln	Asp	Asp	Lys	Cys	Gly	Phe	Pro	Glu	Ser	Val	Glu	Asn	Gly	Asp	740	745	750	
Phe	Val	His	Cys	Glu	Glu	Ser	Gly	Arg	Arg	Val	Leu	Val	Tyr	Ser	Cys	755	760	765	
Arg	His	Gly	Tyr	Glu	Leu	Gln	Gly	Arg	Glu	Gln	Leu	Thr	Cys	Thr	Gln	770	775	780	

Glu Gly Trp Asp Phe Gln Pro Pro Leu Cys Lys Asp Val Asn Glu Cys  
 785 790 795 800

Ala Asp Gly Ala His Pro Pro Cys His Ala Ser Ala Arg Cys Arg Asn  
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Thr Lys Gly Gly Phe Gln Cys Leu Cys Ala Asp Pro Tyr Glu Leu Gly  
 820 825 830

Asp Asp Gly Arg Thr Cys Val Asp Ser Gly Arg Leu Pro Arg Val Thr  
 835 840 845

Trp Ile Ser Met Ser Leu Ala Ala Leu Leu Ile Gly Gly Phe Ala Gly  
 850 855 860

Leu Thr Ser Thr Val Ile Cys Arg Trp Thr Arg Thr Gly Thr Lys Ser  
 865 870 875 880

Thr Leu Pro Ile Ser Glu Thr Gly Gly Gly Thr Pro Glu Leu Arg Cys  
 885 890 895

Gly Lys His Gln Ala Val Gly Thr Ser Pro Gln Arg Ala Ala Ala Gln  
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14

<210> 10

<211> 22

<212> DNA

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22

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22

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47

SEQUENCE LISTING

<110> Rapoport, Basil

<120> Disease Associated Human Autoantibodies Specific For  
Human Thyroid Peroxidase.

<130> 08/482,402

<140> 08/482,402

<141> 1995-06-07

<150> PCT/US92/06283

<151> 1992-07-30

<150> 07/750,579

<151> 1991-08-28

<150> 07/738,040

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<150> 07/559,955

<151> 1990-07-31

<150> 07/472,070

<151> 1990-01-30

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<151> 1994-03-03

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<151> 1994-01-27

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<170> PatentIn Ver. 2.1

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<223> See Brief Description of the Drawings fig 6 of  
Application for detail

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<223> See Brief Description of the Drawing figure 7 of  
application for detail

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480  
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Applicaion for details

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